

August 22, 2002

Secretary Robert Durand
Executive Office of Environmental Affairs
Attention: Jay Wickersham, MEPA Unit
251 Causeway Street, Suite 900
Boston, Massachusetts 02114

RE: EOE #10509 New Bedford/Fall River Commuter Rail Extension Project Final Environmental Impact Report

Dear Secretary Durand:

We are writing to provide EPA's comments on the Massachusetts Bay Transportation Authority's (MBTA) Final Environmental Impact Report (FEIR) for the New Bedford/Fall River Commuter Rail Extension Project. EPA submitted comments on both the Draft Environmental Impact Report (DEIR) and the Supplemental Draft Environmental Impact Report (SDEIR). Both of our letters raised concerns about air quality, wetlands and wildlife habitat, secondary impacts, and water supply issues. In addition, we raised concerns about assumptions used in the analysis of the performance of various alternatives, the analysis of impacts associated with those alternatives, and potential mitigation measures.

EPA recognizes that the MBTA's effort to provide commuter service between Boston and the New Bedford/Fall River area is a high priority for the Commonwealth and the cities to be served by this rail extension. We continue to strongly support rail as an alternative to highway congestion, when rail can be provided in an environmentally acceptable manner. Toward that end, the MBTA will need to increase its level of coordination with federal agencies, and address the concerns described in this letter and attachment during the federal review process. EPA remains ready to work with the MBTA and our federal and state colleagues towards the development of a viable, yet environmentally sensitive project which meets the requirements of the National Environmental Policy Act and the federal Clean Water Act.

The MBTA's preferred alternative would restore commuter rail service along the Stoughton alignment. As proposed, this alignment passes through a number of wetland resources including the Hockomock Swamp, a Commonwealth of Massachusetts-designated Area of Critical Environmental Concern (ACEC). EPA designated the Hockomock Swamp as a Priority Wetland based on its high quality characteristics (including wildlife habitat value) and vulnerability to environmental degradation in

September, 1987. The Hockomock Swamp represents one of the few remaining bioreserves in southern New England that provide enough contiguous habitat to support area sensitive wildlife in a safe and stable condition. The Nature Conservancy has identified the Hockomock Swamp as “a resource of national importance based on its relatively undisturbed natural conditions. This area has been designated a regional priority ... the Swamp is among the most important wetland complexes remaining in the North Atlantic Coast Eco-region stretching from Delaware to Maine.”¹ In addition, the Massachusetts Department of Environmental Management has stated, “The Hockomock Swamp was designated as an ACEC ... because ... there is no other ecological area like it in southeastern Massachusetts, or in the rest of the Commonwealth. It is impossible to overemphasize the uniqueness or ecological value of the area...the Hockomock Swamp is one of the premiere ACECs designated over the past 25 years.”² It is against this backdrop that the MBTA proposes to bisect the Hockomock with an active rail line.

Regional efforts to expand mass transit are important. However, the potential for significant environmental impacts associated with the project place added pressure on the MBTA’s efforts to address a number of challenging issues associated with the project. Specifically, we remain concerned that, among other things:

- the MBTA’s analysis of alternatives is deficient;
- inflexible application of the MBTA’s Service Delivery Policy unnecessarily foreclosed consideration of less damaging alternatives;
- the impacts of the preferred alternative have not been comprehensively addressed, but available information suggests that it could result in significant, yet avoidable, environmental impacts to a regionally significant environmental resource; and
- it remains unclear whether the preferred alternative (restoration of rail service through the Hockomock Swamp ACEC) could satisfy EPA’s Section 404 (b)(1) guidelines and receive a Clean Water Act Section 404 permit from the Army Corps of Engineers (Corps).

We have prepared this letter and detailed attachment to help identify issues we believe should be addressed before any final decisions are made about the project. Our comments address a range of issues including: regulatory concerns, consideration of alternatives, direct and indirect wetland impacts, wildlife habitat, mitigation, air quality, growth management, water supply and stormwater management. The MBTA’s preferred alternative has great potential to result in significant direct and indirect impacts to

¹Letter from Wayne Klockner, State Director of The Nature Conservancy, to Robert Durand, dated November 1, 1999.

²Letter from Peter Webber, Commissioner of Massachusetts Department of Environmental Management, to Robert Durand, dated November 8, 1999.

the Hockomock Swamp ecosystem that will be difficult to mitigate and which raise the possibility that an Environmental Impact Statement may be necessary to support Corps decision-making. We remain willing to work with the MBTA to develop a successful project that gets people off congested highways while also avoiding significant environmental impacts. But, as the Certificate on the SDEIR predicts, future federal assessment of the project will require additional information on alternatives other than the MBTA's preferred Stoughton alignment.³ We will continue to advise the MBTA to supplement the analysis that has occurred to date with a fresh look at other routes and transit options to expand commuter services for the region.

Please contact me or David Webster of EPA's Office of Environmental Protection at 617/918-1791 should you have any questions about this letter.

Thank you again for this opportunity to comment.

Sincerely,

Robert W. Varney
Regional Administrator

Attachment

cc:

Andrew Brennan, MBTA
Christine Godfrey, US Army Corps of Engineers
Crystal Gardner, US Army Corps of Engineers
Karen Adams, US Army Corps of Engineers
Mike Bartlett, United States Fish and Wildlife Service
Phil Morrison, United States Fish and Wildlife Service
Elizabeth Kouloheras, DEP Southeast Regional Office
Christine Kirby, DEP Bureau of Waste Prevention
Mike Stroman, DEP Division of Wetlands and Waterways
Patricia Huckery, Massachusetts Natural Heritage Program

³We note as well that a November 12, 1999 comment letter from the Corps of Engineers on the DEIR indicated that a more rigorous investigation of alternatives would be necessary and that "there is no assurance that the Stoughton Alternative is permissible."

Attachment to EPA's Comment Letter on the FEIR for the MBTA's New Bedford/Fall River Commuter Rail Extension Project

Overview

While EPA appreciates the opportunity to comment on the MBTA's New Bedford Fall River project through the MEPA process, EPA's primary review role occurs in the context of the federal permitting process. Both Section 404 of the Clean Water Act and the National Environmental Policy Act (NEPA) direct federal agencies to evaluate fully the range of impacts of a proposed project and the various alternatives to the project, and to disclose those impacts to the public. EPA reviews proposed projects and advises the Corps of Engineers as to whether the project satisfies EPA's § 404(b)(1) guidelines and qualifies for § 404 permit issuance, and as to whether the Corps' environmental evaluation of the proposal is consistent with NEPA. Ideally, the state permitting and MEPA process would occur simultaneously with the federal permitting and NEPA process. In this instance, however, the MEPA review has preceded the § 404 review. We recognize that the MEPA process is designed to support decision-making at the state level and does not necessarily provide all of the information to fulfill the Corps NEPA responsibilities or to fully inform the Section 404 permit process. However, the disconnect between the MEPA, NEPA and 404 reviews for this project presents a challenge, since alternatives that were previously discounted and eliminated from consideration during the MEPA process will need to be reconsidered or more fully evaluated as a part of the federal process. Moreover, the Corps NEPA process may well involve the development of an Environmental Impact Statement (EIS), given the potential significance of the impacts of the project. Thus it is clear that much work remains to be done before all final decisions are reached on this project, and we offer our comments in the MEPA process in part to inform the § 404 permitting and NEPA reviews still to come.

When the § 404 permit process for this project begins in earnest, we will focus primarily on the aquatic environment that would be affected by the project alternatives. EPA's § 404(b)(1) guidelines set forth the environmental standards which must be satisfied in order for a § 404 permit to issue. Two key provisions of the guidelines are critical when considering the alternatives proposed for the New Bedford Fall River project. First, the guidelines generally prohibit the discharge of dredged or fill material if there exists a practicable alternative which causes less harm to the aquatic ecosystem. This fundamental requirement of the § 404 program is often expressed as the regulatory standard that a permit may only be issued for the "least environmentally damaging practicable alternative" or LEDPA. "Practicable" is defined as "available and capable of being done after taking into consideration cost, existing technology and logistics in light of overall [or, basic] project purposes." [40 CFR § 230.3(q)]. For "non-water dependent" activities located in wetlands or other special aquatic sites, such as the MBTA's commuter rail project, the guidelines presume that practicable alternatives exist and that such alternatives would be less damaging to the aquatic environment. The burden to demonstrate compliance with the alternatives test and rebut the presumptions rests with the applicant.

Second, the guidelines prohibit issuance of a permit if the discharge would cause or contribute to significant degradation of waters of the United States. Even where an alternative is shown to be the LEDPA, it cannot receive a § 404 permit if the aquatic impacts associated with the project would be significant. The determination of significance is based on the combination of direct, indirect, secondary, and cumulative impacts on the aquatic environment. We believe that the MBTA's efforts to analyze the project to date leave serious doubts about the ability of the project to meet these two key provisions of the guidelines.⁴

Consideration of Alternatives

The Stoughton and Attleboro alignments would result in direct and indirect impacts to the aquatic environment. As mentioned earlier, both alternatives were considered viable options in the DEIR, but the Stoughton alternative became the preferred alternative at that time for, among other reasons, the fact that it was expected to result in less direct wetland impact than the Attleboro route. Direct wetland impacts are often a consideration for determinations about which alternative constitutes the LEDPA. It is now apparent, however, that the direct aquatic impacts of the Stoughton alignment will be greater than those from the Attleboro alignment. Moreover, the potential for significant indirect aquatic impacts associated with the Stoughton alignment renders it more environmentally damaging in total than the Attleboro route. Based on the information provided to date, the MBTA has not overcome the presumption that a less environmentally damaging practicable alternative to the Stoughton alignment exists. The Attleboro alignment appears to be both practicable and less damaging to the aquatic environment. In the § 404 permit process, the MBTA bears the burden of demonstrating that its preferred alignment is the LEDPA, in order to qualify for a permit. It also must demonstrate that its preferred alignment will not cause or contribute to significant degradation of the aquatic environment.

Practicability

The MEPA certificate on the SDEIR determined that the MBTA did not have to provide additional analysis of any alternative other than the Stoughton alternative as that alignment was the only one deemed practicable by the MBTA for the restoration of transit services to New Bedford and Fall River. On this point the FEIR (page 3-2) states, "The Attleboro alternative is not practicable because it could not meet the MBTA Service Delivery Policy, and would disrupt existing and programmed service on the Northeast Corridor, affecting on-time performance on all lines that terminate at South Station." According to the MBTA, the Attleboro alignment can only provide one trip from New Bedford during the morning peak period and one to New Bedford during the evening peak. Two peak period trips can

⁴Additional provisions of the guidelines include a prohibition against discharges that would, among other things, violate state water quality standards, and a requirement that all appropriate and practicable mitigation be employed to address unavoidable impacts. See 40 CFR §§ 230.10(b) and (d), respectively.

be provided from Fall River in the morning and one to Fall River in the evening. According to the FEIR, the limited peak period service reflects the impact of Amtrak high-speed operations along the Northeast Corridor (page 3-32).

EPA continues to question the MBTA analysis which led to the conclusion that the Stoughton Alignment is the only practicable alternative. In addition to concerns we raised on this issue in our comments on the SDEIR, we recently reviewed a report titled “Reassessment of Attleboro Alternative and Other Options for New Bedford/Fall River Commuter Rail Extension” prepared for the Town of Easton by Michael A. Nelson of Transportation/Management Consulting.⁵ This report raises several significant questions about the basis for conclusions reached in the MBTA’s Technical Report, “Northeast Corridor via Attleboro Bypass- Operations Simulation” dated March 2000. The Nelson report challenges the Amtrak schedule and use conflicts cited by the MBTA as one of the reasons the Attleboro alternative would not be viable. The report demonstrates that it would indeed be possible for the MBTA to operate an Attleboro route along the corridor without disrupting other service in that corridor. Also, the report offers several suggestions about how to improve the performance of the Attleboro alternative. Based on this information, and the potential for significantly reduced aquatic ecosystem impacts if the Attleboro alignment were pursued, EPA believes further evaluation of the Attleboro alternative is warranted.

Moreover, we question the MBTA’s reluctance to allow for some flexibility in its Service Delivery Policy, especially given the potential impacts to the Hockomock ecosystem. The policy acknowledges that there may need to be exceptions and that the rationale for exceptions should be clearly stated in the annual service plan. The precedent for exception is already in place along the Middleborough/Lakeville Line. On that line, there are four “peak hour” commuter trains, though the first arrives at South Station at 6:57 am, 3 minutes before the official peak period, and the last peak period train arrives at South Station at 9:02 am, three minutes after the official end of the peak period. This means that there are only two trains arriving at south station and two departing from Middleborough/Lakeville between the hours of 7 am and 8:59 am. But, a third train departs and arrives within three minutes of this peak period at either end of the peak period and is considered peak by the MBTA. Avoidance of environmental harm would appear to be a valid reason for an exception in this case. EPA believes that providing two trains within the 7:00 to 9:00 am Boston arrival window rather than three, holds great potential to provide substantial commuter benefits. Having a third and fourth train potentially arrive up to 30 minutes sooner or later than the 7:00 to 9:00 window could provide additional benefit to commuters and could tap into the increasing numbers of workers who maintain flexible hour work schedules. We suggest that the MBTA evaluate the ridership potential of a schedule that provides service just before and just after the core peak period.

⁵ Reassessment of Attleboro Alternative and Other Options for New Bedford/Fall River Commuter Rail Extension, Michael A. Nelson, Transportation/Management Consulting, North Adams, MA, April 19, 2002.

Least Environmentally Damaging

As we have stated in previous letters, we maintain that a more complete analysis of the Attleboro alternative should be pursued for a number of reasons, most importantly, the potential for reduced direct and indirect aquatic impacts. Information developed for the FEIR now clearly indicates that the direct wetland impacts are greater for the Stoughton alternative than the Attleboro alternative. Specifically, the FEIR states that the Attleboro alternative would directly impact an estimated 5.77 acres of wetland while the less damaging of the two Stoughton alternatives, the trestle option, would directly impact approximately 7.57 acres⁶. Direct wetland impacts associated with construction of the Stoughton alignment at-grade through the Hockomock ACEC remain unquantified in the FEIR but they are expected to be greater than those associated with the trestle option. Based on information provided to date, either of the Stoughton alternatives will result in greater direct wetland and wildlife impacts than the Attleboro alternative. In addition, the indirect impacts of the Stoughton alternative will be substantially greater than the Attleboro alternative. This is an important distinction given that the MBTA has not clearly demonstrated that the Attleboro alternative is not practicable.

Despite the MBTA's unsubstantiated claims in the FEIR that these impacts would be minor, we believe that the direct and indirect impacts to rare species that would result from the construction of this project are potentially significant. The Stoughton trestle alternative was developed as a sub-alternative to the at-grade design and explored as a means to potentially minimize, and in some instances, avoid impacts to sensitive wetlands. Unfortunately, the MBTA's May 1, 2002 cover letter that accompanied the FEIR states that the impacts associated with the at-grade design were "relatively minor" and do not warrant the fifty million dollar cost associated with the trestle. We disagree with this characterization of impacts and do not have sufficient information to reach a conclusion that the project as proposed will mitigate project impacts to the Hockomock to a "minor" level. Comparing the trestle and at-grade Stoughton alternatives, it appears that the trestle alternative is less damaging in its direct effects and likely equally damaging in its indirect effects.

Adverse Aquatic Impacts

In previous comment letters, incorporated here by reference and as expanded in the attachment to this letter, EPA offers a number of concerns about the project's potential to cause significant impacts to the Hockomock Swamp—the largest expanse of unfragmented wetland habitat remaining in southern New England. The potential for environmental impacts outside the Hockomock Swamp associated with the construction and operation of the proposed Stoughton alignment includes impacts to wildlife habitat of

⁶ The SDEIR previously estimated the impacts of the Stoughton alternative as only 2.9 acres of Bordering Vegetated Wetland.

state-listed species within Pine Swamp in Raynham, the Assonet and Cedar Swamp Rivers in Lakeville⁷, and at the Acushnet Cedar Swamp and nearby wetland areas in New Bedford. While this letter focuses almost exclusively on the potential impacts to the Hockomock Swamp, the Section 404 review process will require a full evaluation of potential wetland and stream impacts along each alternative route.

Hockomock Swamp

Construction of the project along the Stoughton at-grade alignment through the Hockomock Swamp will most likely impact amphibian and reptile populations due to the creation of physical barriers, collision impacts, and changes to the landscape through tree clearing and other related activities. In general, we believe the FEIR understates the extent of impacts that are likely to occur if the project were to be constructed along the Stoughton alignment. Specifically, the at-grade alternative will pose an insurmountable barrier for wildlife species such as amphibians, and small adult and juvenile turtles, who will be unable to physically navigate over the railroad tracks, ballast and retaining walls. For example, the train track will create a barrier for migrating breeding adult amphibians in spring, and perhaps more significantly, a barrier for emigrating amphibian juveniles moving from their breeding ponds into surrounding uplands. As the rare species study conducted by MBTA's consultant showed, literally hundreds of state-listed salamanders cross the right-of-way to reach vernal pools adjacent to the abandoned rail bed. Given the philopatric nature of Ambystomatid salamanders, this type of barrier will likely lead to a significant number of animals failing to reach their breeding grounds.

For wildlife capable of crossing the rail tracks, or at least attempting to do so, there is good reason to anticipate a high mortality rate for those species. The FEIR states that "animals attempting to cross the tracks may be struck by trains or trapped between the tracks....However, increased mortality has been shown to have no significant effects on populations that are stable and reproduce quickly." EPA has funded research which suggests that exactly the opposite is true. In particular, a significant decrease in population can be anticipated for those species in the Hockomock that do not reproduce quickly, such as the state-listed (special concern) four toed salamander (lays only 10 - 15 eggs once in the spring) and all species of turtles, both common and state-listed (spotted (special concern), blanding's (threatened), and eastern box (special concern)). Turtles and Ambystomatid salamanders have evolved to be long-lived species as a mechanism to deal with high, natural mortality during early life stages – particularly eggs and hatchlings (or larvae). Therefore, any added mortality of breeding adults will inevitably lead to

⁷The FEIR indicates that vertical retaining walls are proposed along a 7,500-foot (1.4-mile) segment of the right-of-way south of Malbone Street, to avoid placing fill in wetlands within mapped rare species habitat associated with the Assonet and Cedar Swamp Rivers. Details of the temporary and permanent impacts of wall construction or culvert replacement on wetlands and rare species habitat is not provided in the FEIR.

a decrease in population.⁸ Moreover, Scott Jackson, a wildlife biologist with the University of Massachusetts, has written that “[r]ailways and highways create barriers to movement that subdivide animal populations. Local population extinctions may occur due to stochastic genetic and demographic events, environmental variability and natural catastrophes (Shaffer, 1981). Population extinction is more likely to occur in smaller populations, such as those produced by habitat fragmentation (Shaffer, 1981; Shaffer and Samson, 1985).”⁹

EPA believes that the MBTA’s preferred at-grade alternative will adversely affect breeding and migratory habitat for spotted and blanding’s turtles and blue spotted salamanders, among others, and movement of wildlife to a degree that it may cause or contribute to unacceptable wetland ecosystem impacts, including significant degradation of wildlife habitat, contrary to Section 230.10(c) of the EPA’s § 404(b)(1) guidelines. As noted earlier, the guidelines state that discharges that cause or contribute to significant degradation of waters of the U.S. are prohibited. Significant degradation is defined, in part, as “Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems....Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat” 40 CFR 230.10(c). The proposed railway through the Hockomock would cause devastating impacts to state-listed wetland dependent wildlife: nesting habitat used by blanding’s turtles (a threatened species) would be greatly reduced and the Commonwealth’s largest population of the blue-spotted salamanders (a state-listed species of special concern) would be constrained from migrating to their breeding sites. Pollutants released from the diesel locomotives could impair the habitat of numerous species of wetland-dependent wildlife. Loss of the tree canopy along the alignment will fragment the largest freshwater wetland in the Commonwealth, will decrease leaf litter and increase insolation of the vernal pools and other habitats that currently exist along the abandoned right-of-way. All of these impacts would result in an overall loss of wildlife habitat, ecosystem diversity, productivity, and stability. Moreover, these impacts can be expected to occur to varying degrees with either the at-grade or trestle alternative.

The FEIR states that “[t]he MBTA conducted a rare species study that indicates there are substantial numbers of blue-spotted salamanders, four-toed salamanders, and spotted turtles, as well as more common reptile and amphibian populations in the Hockomock Swamp. Populations of all species appear to be large and stable.” In fact, there were approximately 600 individual blue-spotted salamanders seen on and near the Hockomock right-of-way, which is likely the Commonwealth’s largest known population of the state-listed salamander. It is likely that the Hockomock population of blue-

⁸Thomas F. Tynning, professor of Environmental Science, Berkshire Community College, personal communication with Stafford Madison, USEPA, August 6, 2002.

⁹Jackson, S.D. 2000. Overview of Transportation Impacts on Wildlife Movement and Populations. Pp. 7 - 20, in Messmer, T.A. and B. West (eds), *Wildlife and Highways: Seeking Solutions to an Ecological and Socio-economic Dilemma*. The Wildlife Society.

spotted salamanders is a meta-population (a set of local populations connected by migrating individuals), given the robust numbers of individuals observed and the existence of a complex of vernal pools within close proximity to one another. It is critical to preserve and maintain the integrity of such meta-populations of rare species as they provide genetic variability if a given population is faced with some type of catastrophic event. Because smaller and more genetically isolated populations are more susceptible to extinction, larger populations of rare species, such as the blue-spotted salamander population in the Hockomock, are vital to the survival of the species as a whole.

MBTA suggestions to mitigate the aforementioned barrier and collision impacts under the at-grade alternative include maintaining existing culverts and the installation of wildlife passages along the ROW, although it is unclear precisely where along the embankment these passages will be constructed. The FEIR states, "If the rail is experienced as a barrier by migrating amphibians, existing populations may be divided into subpopulations....However, the rail will not create a complete barrier to movement between the eastern and western sides of the ROW. The preservation of the existing culverts and addition of new wildlife crossings and extended culverts will maintain a connection between the two sides, allowing continued genetic exchange." This assertion remains unsubstantiated until more detailed information concerning the summer, wintering, and breeding habitat requirements for amphibians and reptiles utilizing habitat in and adjacent to the Hockomock ROW is documented. It is impossible to know where to construct salamander tunnels and other wildlife passages without first knowing more about the actual populations and the dispersal preferences of each species in question.

The willingness of migrating amphibians and reptiles to use culverts and constructed "salamander tunnels" as a means of dispersing from one habitat to another within the Hockomock ROW is not addressed. Moreover, as many of these animals are sensitive to changes in microclimate, they may be reluctant to enter the tunnel at all if it appears dryer, colder or darker than the surrounding environment. In fact, very small differences between ambient temperature and temperature in the tunnel is enough to stop amphibians from entering a tunnel.¹⁰ In addition, the degree to which certain amphibian and reptile species are willing to use constructed tunnels can vary widely. A tunnel utilized by spotted salamanders, for instance, does not guarantee that other Ambystomatid species will automatically follow suit. More specifically, no current evidence exists to support the use of salamander tunnels by the state-listed blue-spotted salamander. Finally, construction of eight tunnels affords a very low degree of permeability across what amounts to a 3.3 mile barrier through the Hockomock Swamp. Even if this method were entirely effective in allowing animal passage from one side of the track to the other, we question how the drift fences and tunnels will be maintained over time.

¹⁰Jackson, S.D. and C.R. Griffin. 2000. A Strategy for Mitigating Highway Impacts on Wildlife. Pp. 143-159, in Messmer, T.A. and B. West (eds), *Wildlife and Highways: Seeking Solutions to an Ecological and Socio-economic Dilemma*. The Wildlife Society.

As currently designed, it appears the eight salamander tunnels proposed along the alignment in the Hockomock Swamp will not allow enough moisture and light to penetrate the tunnel interior during amphibian migrations. Specifically, the five one-foot diameter screened openings (three of which are on the track itself and will be covered by the passing trains) may be far too small to allow enough moisture in, and to prevent the young-of-the-year salamanders from dessication during their trek under the tracks. Moreover, the absence of light may cause animals to hesitate to enter the tunnels; it is for this reason that completely open but grated tunnels are indicated.¹¹

The FEIR also states (page 4.3 - 31) that, “[r]econstructing the rail at-grade may result in the loss of breeding habitat for turtles” Given that the state-listed threatened blanding’s turtle nests on the abandoned right-of-way, construction of the track will significantly reduce available turtle nesting and breeding habitat. Because the remaining area available for nesting outside of the ROW impact will have a far higher concentration of nests, the effects of predation are likely to be compounded.¹² It is unlikely that this impact to the local population of blanding’s turtles in the Hockomock Swamp can be mitigated.

The FEIR claims that the trestle alternative “is not expected to have direct effects to reptile or amphibian movements in Hockomock Swamp.” This claim is unsubstantiated. Moreover, the FEIR predicts minor indirect impacts including aversion to use of turtle nesting habitat along the rail. For state-listed turtle species in particular, these impacts are likely to be far from minor. For those individuals capable of overcoming the aversion to vibration and noise impacts, their nests would remain subject to pollutants emitted by trains passing overhead. The effects of such contamination on overwintering juvenile turtles in their nests are currently unstudied.¹³

The MBTA right-of-way through the Hockomock is characterized by fairly contiguous forest cover. In order to construct the rail line under either the at-grade or trestle alternative, this forest cover would be removed. On this issue the MBTA’s 1995 Environmental Notification Form noted:

The Stoughton Alternative would have substantial environmental impacts....the abandoned right of way passes through an extensive area of the Hockomock Swamp Area of Critical Environmental Concern (ACEC), where portions of the former right of way have subsided, become flooded, and now support wetland vegetation. Alteration of wetlands in the ACEC

¹¹Jackson, S.D. 2000. Overview of Transportation Impacts on Wildlife Movement and Populations. Pp. 7 - 20, in Messmer, T.A. and B. West (eds), *Wildlife and Highways: Seeking Solutions to an Ecological and Socio-economic Dilemma*. The Wildlife Society.

¹²Thomas F. Tynning, professor of Environmental Science, Berkshire Community College, personal communication with Stafford Madison, USEPA, August 6, 2002.

¹³Id.

would be required for reconstruction of the railbed. This reconstruction would also affect wildlife in the ACEC...The abandoned right of way has become vegetated with three to four inch diameter trees, which provide continuous vegetative cover within the forested area. Removal of these trees will create a linear gap in the forest cover, which would result in forest fragmentation and reduce the available habitat area for many sensitive wildlife species.

This linear gap will result in decreased leaf litter in many of the 31 vernal pools along the right-of-way, which would lead to loss of habitat for the state-listed species of special concern, the Mystic Valley Amphipod. Moreover, the loss of tree cover will increase sunlight, which would lead to temperature increases in the pools. This increase in temperature, in turn, can decrease the dissolved oxygen in the pools, and increase chances of dessication for vernal pool amphibians who are already in a race against time to metamorphose before their particular pool dries up.

Diesel locomotives emit coolants, hydrocarbons, and nitrogen oxide (NOx) during the course of normal operation. It is inevitable that these pollutants will, over time, enter the wetlands, vernal pools, and streams adjacent to the right-of-way. Scott Jackson, a wildlife biologist with the University of Massachusetts, estimates that “[s]torm water discharges...[and] air emissions...can degrade habitats ranging up to several hundred meters from railways and highways.”¹⁴ Therefore, the proposed railroad bisecting the Hockomock would not only affect those species utilizing the right-of-way, but also several hundred meters into the forest on both sides of the track.

Vernal Pools

EPA is particularly concerned about the potential impacts to 31 vernal pools which have been identified along the proposed rail corridor. Twenty-one of these vernal pools have been certified under the Massachusetts Natural Heritage and Endangered Species procedures. Due to their ecological importance, certified vernal pools are designated by the Commonwealth as “Outstanding Resource Waters,” (ORWs). The Massachusetts Water Quality Standards provide increased protection to ORWs, and specifically prohibit new or increased discharges to ORWs. EPA is concerned that the proposed construction of the Stoughton Alternative will cause new or increased discharges to at least a portion of the designated ORWs, and is also concerned about potential effects on the vernal pools due to vegetative clearing, stormwater runoff, and emissions from the operation of trains.

The FEIR states that there will be no direct fill placed in any of the 31 vernal pools. Retaining walls are specifically proposed to avoid fill within three vernal pools (VP-2, VP-5, and VP-9). However, table 4.3-4 on page 4.3-39 of the FEIR indicates that 19 of 31 listed vernal pools are within 1 to 17 feet of the proposed vegetation clearing required for this project. Therefore, these pools may be subject to

¹⁴Jackson, S.D. and C.R. Griffin. 2000. A Strategy for Mitigating Highway Impacts on Wildlife. Pp. 143-159 In Messmer, T.A. and B. West, (eds) Wildlife and Highways: Seeking Solutions to an Ecological and Socio-economic Dilemma. The Wildlife Society.

discharges associated with both clearing and construction activities. Such discharges could result in water quality degradation due to increased sedimentation and turbidity. Impacts to water quality would be detrimental to any aquatic invertebrates and amphibian eggs, larvae, and juveniles utilizing these pools. In addition, even if there are no discharges into the pools, adverse effects associated with vegetative clearing adjacent to pools could occur, including an increase in pool temperature, reduced dissolved oxygen levels, and increased rate of evaporation. Such conditions could increase the likelihood of dessication of amphibian larvae before they are able to metamorphose into juveniles.

Finally, during our review of the FEIR we received a copy of a preliminary water quality study commissioned by New England Public Employees for Environmental Responsibility (New England PEER) titled “Water Quality Analysis of Vernal Pools Adjacent to Active Railroad Tracks and an Abandoned Right of Way,”¹⁵ which suggests that impacts to vernal pools may occur as a result of water quality changes brought on by rail line operation. Specifically, the report shows that dissolved oxygen in vernal pools adjacent to an active rail line in Sharon, Massachusetts is significantly lower than dissolved oxygen in pools adjacent to the abandoned ROW in the Hockomock Swamp. If the proposed Stoughton Alternative is constructed, it is possible that discharges of runoff from the rail line, or possibly emissions from locomotives may cause changes to the vernal pools which may ultimately affect the breeding populations of frogs and salamanders which depend on these pools. The information in the report merits further study and evaluation. During the § 404 permit process, the full range of potential impacts to the vernal pools will need to be identified, as will mitigating measures to avoid or minimize such impacts.

Pine Swamp

Another significant wetland that would be affected by the MBTA’s preferred alternative is Pine Swamp. At-grade construction is also proposed for the crossing of Pine Swamp. In order to facilitate the movement of wildlife across the ROW, MBTA proposes new salamander tunnels and the replacement of existing culverts, which would be designed to include a shelf or corridor for wildlife movement adjacent to the stream. Since the grade of the existing ROW will be raised up to five feet, three options for slope treatment are discussed (page 3-66). MBTA’s initial review selected Option 2 - Reinforced Earth Wall System because of the limited environmental impacts both during construction and in its final condition (page 3-73). EPA is concerned that, even with these measures in place, construction across Pine Swamp may still cause adverse impacts to wildlife habitat including interference with wildlife movements.

Compensatory Mitigation

¹⁵Water Quality Analysis of Vernal Pools Adjacent to Active Railroad Tracks and an Abandoned Right-Of-way, April, 2002, by Donald Bennett, Ph.D. June 5, 2002.

For a permit application to comply with the § 404(b)(1) guidelines, the proposal must include all appropriate and practicable steps to compensate for unavoidable impacts. Where, as potentially in this case, the unavoidable impacts would cause or contribute to significant degradation of the aquatic ecosystem, the mitigation plan must also prevent or offset the environmental damage to an extent sufficient to comply with § 230.10(c) of the guidelines (i.e., the impacts must no longer be significant). Whether a mitigation plan succeeds in sufficiently reducing significant impacts normally depends upon the extent to which it replaces or offsets the harm to the aquatic environment from the project. In this case, in the event that the Stoughton alignment is demonstrated to be the LEDPA, the impacts that would need to be addressed include habitat destruction and fragmentation and adverse effects on numerous state listed species. Such impacts are difficult to prevent or offset. Substantial effort would likely be necessary to develop and implement a satisfactory mitigation plan.

Stormwater Management

EPA questions statements in the FEIR concerning stormwater management that the rail line will not result in new point source discharges of stormwater. The MBTA's recent reconstruction of the Newburyport line through wetlands in the Parker River/Essex Bay ACEC, in Ipswich, Newbury and Rowley utilized underground perforated piping drainage systems in track swales and ditches, many of which had direct discharge outlets to adjacent wetlands and waterways. It is not clear whether this project is being designed differently, such that there is no need for similar ballast drainage systems.

In any event, by March 10, 2003, owners/operators of small municipal separate storm sewer systems (MS4s) located within urbanized areas (as defined by the most current Decennial Census) will be required in accordance with the Clean Water Act to obtain coverage under the National Pollution Discharge Elimination System (NPDES) General Permit for Storm Sewer Discharges from Small MS4s. The MBTA will be required to obtain this permit coverage since it is a public body that owns and operates Small MS4s (as defined at 40 CFR 122.26 (b)(16)) for collecting and conveying stormwater along its rail corridors. Stormwater in these "urbanized" rail corridors, including alignments of the proposed New Bedford/Fall River Commuter Line, will need to be addressed in the MBTA's Stormwater Management Plan in accordance with the permit conditions.¹⁶

Air Quality

The FEIR correctly concludes that operation of the rail line will result in significantly fewer volatile organic compounds (VOCs) and carbon monoxide (CO) emissions, as a result of reduced automobile

¹⁶If the proposed project includes any new facilities primarily intended for maintenance activities (repairs, fueling, lubrication, painting) or cleaning, those facilities/activities would be required to obtain permit coverage under Sector P of the existing NPDES Storm Water Multi-Sector General Permit for Industrial Activities (i.e. a Phase I permit).

commuter trips, and will also result in increased nitrogen oxide (NOx) emissions, as a result of the locomotive emissions. Though the air quality impacts are not wholly positive, the NOx increases associated with the locomotives are relatively moderate, particularly when placed in the context of the State Implementation Plan (SIP) for air quality. Congestion on regional roadways intensifies the demand for additional transportation alternatives for commuters.

The New Bedford Fall River Commuter Rail Extension is included in the 2000-2020 Boston, Old Colony, and Southeastern Massachusetts Metropolitan Planning Organizations' Long-Range Regional Transportation Plans and accounted for in the regional emission air quality conformity analysis. This means the projected increase in NOx emissions from the new commuter line will be offset by a combination of other transportation projects, as well as state and federal motor vehicle control measures implemented in eastern Massachusetts. Specific comments on air quality aspects of the project follow:

Emissions from Diesel Construction Equipment

During the construction phase of the project, emissions from construction equipment may contribute to air quality problems in surrounding areas. This is particularly true of diesel-powered equipment that can contribute to high levels of particulate matter (PM) emissions. These emissions can be reduced with pollution control equipment, such as particulate matter filters and oxidation catalysts. EPA applauds the MBTA's commitment, stated in the FEIR, to require retrofits for the construction equipment in accordance with Massachusetts Department of Environmental Protection standards, as well as to require dust controls, in the project's construction specifications.

The New Service

EPA also supports other air quality mitigation measures listed in the FEIR including:

- provisions for electric block heaters at layover facilities to eliminate overnight idling;
- new or rebuilt locomotives acquired for the New Bedford/Fall River system will meet EPA Tier 1 (new locomotives) or Tier 0 (rebuilt locomotives) standards; and
- the establishment of a pilot program for locomotive emissions reduction. The MBTA will develop a Locomotive Emission Reduction Pilot Program to demonstrate technologies that reduce emissions through the use of after-engine emission controls (such as particulate matter filters or oxidation catalysts) and fuel approaches (such as fuel/water emulsions or low sulfur fuel). The MBTA will convene a working group that will review and evaluate emission control technologies and develop a pilot program for demonstrating the application of these technologies.

In addition, EPA encourages the MBTA to implement additional controls to further reduce PM and NOx emissions from operation of trains, and during project construction. These measures will provide additional environmental benefit and further protect the health of Massachusetts

residents. EPA also recommends that the MBTA implement the control measures addressed below, many of which have already been implemented by the MBTA elsewhere in the Commonwealth:

- use low-sulfur fuel in off-road construction equipment used in project construction. This fuel has a lower sulfur content when compared to off-road diesel fuel, thereby reducing particulate emissions;
- use low-sulfur fuel to power locomotive engines;
- wherever possible, accelerate the timeline for locomotive rebuilding, thereby providing emission controls earlier than currently required; and
- when rebuilding locomotive engines, re-manufacture to the cleanest emission control practicable.

Water Supply

The Stoughton alignment poses a threat to drinking water quality since the rail line and stations would cross through several drinking water protection areas in the Towns of Canton, Stoughton, Easton and Raynham. This alternative includes use of an existing active commuter line which crosses within the Zone I of the Springdale Well in Canton (within 100') and would run just outside of the Zone I of GP Well 1 in Easton. A proposed Easton train station would also be located in a Zone II wellhead protection area. Further south, the line would use an existing rail track which crosses a Zone A tributary area to Long Pond (a drinking water source).

Due to the highly permeable nature of soils in southeastern Massachusetts and the proposed crossing of the rail line through drinking water protection areas, EPA remains concerned about the potential impact of hazardous materials spills in these areas. As part of a wellhead protection program, the Safe Drinking Water Act encourages states and local communities to develop contingency (emergency) plans for potential sources of contamination. A release of hazardous materials near a well or reservoir could force a water supplier to shut down the drinking water source. According to Section 4.2.2.2 of the FEIR, any potential pollutants deposited on the railbed from the train are deposited in low concentrations because the train is not a stationary source. The report also indicates that pollutants deposited on the railbed are trapped in the ballast and do not migrate to surface or ground water.

EPA's primary concern is the potential release of hazardous materials in the event of an accident or mechanical malfunction. Due to the sensitivity of the drinking water protection areas along the Stoughton Route, EPA finds the current description of planned emergency response procedures insufficient. In Section 4.2.2.2, the impacts from hazardous materials spills is described as low since "spills of diesel fuel or hydraulic fluids as a result of a train derailment are not anticipated to occur." The FEIR further mentions that "Derailments are an extremely rare event, particularly on tracks that are maintained in good condition" and "The MBTA system has never experienced a derailment event that resulted in a fuel spill." EPA recognizes that hazardous materials spills or train derailments are rare. But, nonetheless, if such a spill occurred, it could threaten the quality of nearby water sources. Section 4.2.3.2 only generally describes spill prevention controls to be employed by construction contractors at rail

reconstruction sites and station construction sites. The FEIR does not describe the proposed response for spills along the rail line and stations after the rail line is in service.

Due to the importance of the region's water sources we believe it is essential that the MBTA establish clear procedures to be followed in the event of a release and provide regular employee training on spill response. The MBTA should also be sure to notify water suppliers in the event of a spill to allow them time to shut off their pumps or take other necessary action to minimize the effect of a hazardous material release. To ensure that plans are made up-front for the protection of drinking water sources, the MBTA should also work with each potentially affected water supplier when it develops an emergency response plan for the tracks and stations.

A second issue of concern to drinking water quality is the potential spraying of herbicides. Section 4.2.3.3 of the FEIR describes restrictions for spraying of herbicides along the rail line. In addition to state mandated public review of rights-of-way management plans, EPA recommends that notice of the plans' availability for comment be directly provided to all public water suppliers and private well owners located within 100 feet of the proposed application area.

The FEIR provides additional preliminary information about proposed stormwater management at train stations and commits to meeting DEP Stormwater Management Policy. No proposed stormwater management designs are provided and long term maintenance and monitoring of the stormwater facilities at train stations is not addressed. The proposed Easton Station is located in a Zone II wellhead protection area. EPA recommends that the MBTA continue to coordinate with the Town of Easton and Easton Water Department on development of stormwater designs (including maintenance and monitoring) for the Easton train station to maximize protection of the Town's Zone II wellhead protection area. The preliminary section 61 findings provided in the FEIR include a commitment to meet the State's Stormwater Management Policy. Specific commitments to involve water suppliers in review of vegetative management plans and spill response measures should be added.

Growth Management Task Force

The FEIR describes steps the MBTA took to establish a Growth Management Task Force. The Task Force is currently represented by municipalities, regional transportation agencies, chambers of commerce and other groups representing EOEA and the Coalition for Buzzards Bay. To provide a full review of the various infrastructure needs and environmental impacts associated with growth, EPA recommends that the Task Force be expanded to include greater representation from local environmental organizations in the area (currently the Coalition for Buzzards Bay is the sole environmental organization), public works officials (including municipal public water suppliers and wastewater facility officials), school officials, and public safety officials (police and fire).

In addition to the task force work (or conceivably as part of that effort if the composition of the task force is broad enough) we recommend that the MBTA work with the communities in the region to apply

“smart growth” principles to the siting and design of the commuter rail stations. The stations should be sited and designed to maximize their accessibility by all modes (pedestrian, biking, private vehicle, taxi, and bus), and to maximize opportunities for compact, mixed use, transit-oriented development that will reduce reliance on automobiles and encourage walking. The following list presents some of the key issues that EPA recommends be considered when siting the stations within the corridor (note that not every point on the list will be applicable to every station, but the list serves as a checklist for communities and others to consider):

- near concentrated development
- close to jobs
- designed to facilitate multi-modal use (bike, pedestrian, drop off and carpoolers)
- located along pedestrian commuter path
- design should facilitate pedestrian circulation
- maximize convenience through development – e.g. groceries etc near stations
- mixed use development – include large and small format retail
- visibly pleasing landscaping
- parking – maximums not minimums
- preferential parking for high occupancy and advanced technology vehicles

In New Bedford, we commend efforts to develop a major intermodal transportation center that would provide commuter rail, freight, bus, and waterfront trolley connections with links to the water terminal. It is important that the MBTA work with the city to ensure that this intermodal center functions well. Ideally, the ferry terminal should be located at the transportation center, and consideration should be given to making this possible, now or in the future. If that proves impossible, it is important that the trolley connection between the commuter rail station and the ferry terminal function efficiently, given the new importance of New Bedford as a ferry terminus.

EPA is willing to work with the MBTA, the growth management task force, and with individual towns along the corridor to assist these efforts. We can provide technical assistance, as well as advice on planning and smart growth strategies related to corridor planning and/or station siting and design issues.